JVIB News & Features

From the Field

Research

Tactile Map Open Stimulus Set for Tactile and Haptic Research

Compared to vision, the psychology and psychophysics of tactile perception remain relatively unexplored. As a result, practitioners and engineers have little psychological information to guide them in the creation of tactile training procedures, assessments, and products. One possible explanation for the lack of tactile perception literature is the dearth of available tactile stimuli. The lack of tactile stimuli compares starkly to the ready availability of visual stimuli, which facilitates rigorous and expeditious experimentation. The Tactile Map Open Stimulus Set (TMOSS), one of the first stimulus databases to be offered for tactile research, consists of seven groups of eight maps, and it facilitates comparison between seven (or fewer) conditions. Tactile maps provide a variety of advantages over other types of tactile stimuli, including their controllability, variety of included tasks (such as searching and distance measurement), and applicability to real-world tactile maps. The Tactile Map Open Stimulus Set is available for free download through the Internet, at: <www.valeriemorash.com/tactilemaps>. The stimulus files, technical materials on the stimulus design and relevant research, and production information are also available for download from the website. For more information, contact: Valerie S. Morash, Department of Psychology, University of California, Berkeley, 502 Minor Hall, Berkeley, CA 94720; e-mail: <valmo@berkeley.edu>; Allison E. Connell Pensky, Department of Psychology, University of California, Berkeley, 1650 Tolman Hall, Berkeley, CA 94720; e-mail: <allison.connell@berkeley.edu>; or Joshua A. Miele, Smith-Kettlewell Eye Research Institute, 2318 Fillmore Street, San Francisco, CA 94115; e-mail: <jam@ski.org>.

People

Grant

Shawn Kelly, of Carnegie Mellon University, recently received a four-year, $1.1 million grant from the U.S. Department of Veterans Affairs to develop a retinal prosthesis for restoring functional vision to the blind. Dr. Kelly is a senior systems scientist for the university's Institute for Complex Engineered Systems (ICES). For more than a decade, he has worked to develop tools designed to restore useful vision to patients with macular degeneration. The prosthesis created by Dr. Kelly and his team involves a "microfabricated thin film" that is inserted behind the retina. A miniature microchip in the film sends stimulating current signals through flexible electrodes to retinal nerves. The microchip receives image signals from specially designed glasses worn by the individual. Dr. Kelly explains: "My device works very much like a camera, replacing the function of the rods and cones of the human eye." For more

